CLAIMS

1.   An image generating device for generating a still image from a plurality of frame images contained in a video image, the device comprising:

    a synthesis object setting module for setting, from among areas included in frame images other than a reference frame image selected from among the plurality of frame images, one ore more areas as object frame image areas for synthesis, the object frame image areas being selected according to a predetermined rule relating to a reference frame image area within the reference frame image;

    a comparison reference extracting module for extracting one comparison reference frame image area from among the reference frame image area and the object frame image areas for synthesis;

    a target extracting module for extracting one target frame image area from among the object frame image areas for synthesis other than the comparison reference frame image area;

    a comparing module for comparing the comparison reference frame image area with the target frame image area to calculate a pre-selected parameter;

    an excluding module for excluding the target frame image area from the object frame image areas for synthesis if the parameter does not meet a predetermined criterion; and

    a synthesized image generating module for synthesizing the reference frame image area and the object frame image areas for synthesis to create a synthesized image area.

2.   An image generating device according to claim 1, further comprising:

    a setting module for setting as the reference frame image area an area within the reference frame image, to serve as a reference for synthesis; and

    a frame number controlling module for repeating processes of the synthesis object setting module, the comparison reference extracting module,

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the object extracting module, the comparing module, and the excluding module, until the total number of the reference frame image area and the object frame image areas for synthesis meeting the criterion reaches a predetermined number.

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3. An image generating device according to claim 2, further comprising

a specification receiving module for receiving specification of the reference frame image,

10 wherein the setting module sets the specified frame image as the reference frame image.

4. An image generating device according to claim 1 or 2, wherein the comparison reference extracting module sets the reference frame image area as the comparison reference frame image area.

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5. An image generating device according to claim 1 or 2, further comprising

an eliminating module for eliminating, from among the object frame image areas for synthesis, an area of frame image for which a characteristic of

20 the frame image area meets a predetermined condition.

6. An image generating device according to claim 1 or 2, wherein the parameter is an image shift amount.

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7. An image generating device according to claim 6, wherein the comparing module comprises:

a frame shift calculating module for calculating the image shift amount of a target frame image containing the target frame image area, with respect

30 to a comparison reference frame image containing the comparison reference frame image area; and

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an area shift calculating module for calculating the image shift amount of the target frame image area with respect to the comparison reference frame image area, based on the image shift amount calculated by the frame shift calculating module.

8. An image generating device according to claim 1 or 2, wherein the parameter is an image difference derived from comparison of pixel characteristic values at identical locations in the target frame image area and the comparison reference frame image area.

9. An image generating device according to claim 1 or 2, wherein the parameter is a correlation of average values of pixel characteristic values in the target frame image area and in the comparison reference frame image area.

10. An image generating device according to claim 1 or 2, wherein the reference frame image area and the object frame image area for synthesis are areas derived by dividing each frame image in an identical manner; and

the target extracting module extracts a target frame image area at a same location corresponding to the comparison reference frame image area.

11. An image generating device for generating a still image from a plurality of frame images contained in a video image, wherein if an evaluation value based on a characteristic value of an image, the evaluation value being calculated by comparing a reference frame image area which is an area serving as a reference for synthesis and contained in a reference frame image which is one of the plurality of frame images, with a comparison target frame image area which is one of areas contained in the plurality of frame images, meets a predetermined criterion, the image generating device synthesizes the reference frame image area and the comparison target frame image area.

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12. An image generating method for generating a still image from a plurality of frame images contained in a video image, the method comprising the steps of:

(a) setting, from among areas included in frame images other than a reference frame image selected from among the plurality of frame images, one ore more areas as object frame image areas for synthesis, the object frame image areas being selected according to a predetermined rule relating to a reference frame image area within the reference frame image;

(b) extracting one comparison reference frame image area from among the reference frame image area and the object frame image areas for synthesis;

(c) extracting one target frame image area from among the object frame image areas for synthesis other than the comparison reference frame image area;

(d) comparing the comparison reference frame image area with the target frame image area to calculate a pre-selected parameter;

(e) excluding the target frame image area from the object frame image areas for synthesis if the parameter does not meet a predetermined criterion; and

(f) synthesizing the reference frame image area and the object frame image areas for synthesis to create a synthesized image area.

13. An image generating method according to claim 12, further comprising the steps of:

setting as the reference frame image area an area within the reference frame image, to serve as a reference for synthesis; and

(g) repeating processes of the step (a), the step (b), the step (c), the step (d), and the step (e) until the total number of the reference frame image area and the object frame image areas for synthesis meeting the criterion reaches a predetermined number.

14. An image generating method according to claim 13, further comprising the step of:

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receiving specification of the reference frame image,

wherein the step of setting the reference frame image area includes the step of setting the specified frame image as the reference frame image.

5   15.   An image generating method according to claim 12 or 13, wherein the step (b) includes the step of setting the reference frame image area as the comparison reference frame image area.

        16.   An image generating method according to claim 12 or 13, further

10   comprising the step of:

        eliminating, from among the object frame image areas for synthesis, an area of frame image for which a characteristic of the frame image area meets a predetermined condition.

15   17.   An image generating method according to claim 12 or 13, wherein the parameter is an image shift amount.

        18.   An image generating method according to claim 17, wherein the step (d) comprises the steps of:

20   calculating the image shift amount of a target frame image containing the target frame image area, with respect to a comparison reference frame image containing the comparison reference frame image area; and

        calculating the image shift amount of the target frame image area with respect to the comparison reference frame image area, based on the image

25   shift amount calculated by the frame shift calculating module.

        19.   An image generating method according to claim 12 or 13, wherein the parameter is an image difference derived from comparison of pixel characteristic values at identical locations in the target frame image area and

30   the comparison reference frame image area.

20.   An image generating method according to claim 12 or 13, wherein the parameter is a correlation of average values of pixel characteristic values in the target frame image area and in the comparison reference frame image area.

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21.   An image generating method according to claim 12 or 13, wherein the reference frame image area and the object frame image area for synthesis are areas derived by dividing each frame image in an identical manner; and

        the step (c) includes the step of extracting a target frame image area at

10   a same location corresponding to the comparison reference frame image area.

22.   An image generating method for generating a still image from a plurality of frame images contained in a video image, wherein if an evaluation value based on a characteristic value of an image, the evaluation value being

15   calculated by comparing a reference frame image area which is an area serving as a reference for synthesis and contained in a reference frame image which is one of the plurality of frame images, with a comparison target frame image area which is one of areas contained in the plurality of frame images, meets a predetermined criterion, the method synthesizes the reference frame image

20   area and the comparison target frame image area.

23.   A computer program for generating a still image from a plurality of frame images contained in a video image, the computer program causing a computer to implement the functions of:

25   a synthesis object setting function for setting, from among areas included in frame images other than a reference frame image selected from among the plurality of frame images, one ore more areas as object frame image areas for synthesis, the object frame image areas being selected according to a predetermined rule relating to a reference frame image area within the

30   reference frame image;

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a comparison reference extracting function for extracting one comparison reference frame image area from among the reference frame image area and the object frame image areas for synthesis;

a target extracting function for extracting one target frame image area from among the object frame image areas for synthesis other than the comparison reference frame image area;

a comparing function for comparing the comparison reference frame image area with the target frame image area to calculate a pre-selected parameter;

an excluding function for excluding the target frame image area from the object frame image areas for synthesis if the parameter does not meet a predetermined criterion; and

a synthesized image generating function for synthesizing the reference frame image area and the object frame image areas for synthesis to create a synthesized image area

24. A computer program for generating a still image from a plurality of frame images contained in a video image, the computer program causing a computer to execute a process wherein if an evaluation value based on a characteristic value of an image, the evaluation value being calculated by comparing a reference frame image area which is an area serving as a reference for synthesis and contained in a reference frame image which is one of the plurality of frame images, with a comparison target frame image area which is one of areas contained in the plurality of frame images, meets a predetermined criterion, the process synthesizes the reference frame image area and the comparison target frame image area.